

What is claimed is:

1. A drive system for a propeller-driven vessel comprising:

an inner shaft having means adjacent an aft end for affixing an outer propeller thereto to achieve rotation thereof;

5 a hollow outer shaft having a longitudinal bore therethrough dimensioned to admit the inner shaft in coaxial relation, the outer shaft having means adjacent an aft end for affixing an inner propeller thereto to achieve rotation thereof;

a fore driven gear having teeth, the fore driven gear coaxially affixed to the inner shaft;

10 aft driven means comprising a flexible, continuous member engageable with the outer shaft for achieving corotation therewith;

a drive shaft having means for being rotatably driven adjacent a fore end;

a fore drive gear coaxially affixed for corotation with the drive shaft and having gear teeth positioned for meshing with the fore driven gear teeth for driving the fore driven gear in a first direction; and

15 aft drive means affixed for corotation with the drive shaft and having means for driving the flexible member in a second direction opposite the first direction.

2. The drive system recited in Claim 1, further comprising a case for housing

20 the fore driven gear, the flexible member, the fore drive gear, and the aft drive means within an interior space thereof.

3. The drive system recited in Claim 2, further comprising drive shaft aft bearing means for rotatably affixing an aft end of the drive shaft to an aft side of the case.

4. The drive system recited in Claim 2, further comprising drive shaft fore bearing means for rotatably affixing the drive shaft to a fore side of the case, the fore bearing means positioned between an aft end and the fore end of the drive shaft.

5. The drive system recited in Claim 2, further comprising inner shaft bearing means for rotatably affixing a fore end of the inner shaft to a fore side of the case.

6. The drive system recited in Claim 2, further comprising outer shaft bearing means for rotatably affixing the outer shaft to an aft side of the case, the outer shaft bearing means positioned between the aft end and a fore end of the outer shaft.

7. The drive system recited in Claim 1, wherein the drive shaft fore end is affixable to a crank shaft of an engine.

8. The drive system recited in Claim 1, wherein the affixing means of the inner and the outer shaft comprise propeller mounts.

9. The drive system recited in Claim 1, wherein the drive shaft and the inner and the outer shafts are positioned in generally vertical, parallel alignment.

10. A drive system for a propeller-driven vessel comprising:

an inner shaft having means adjacent an aft end for affixing an outer propeller thereto to achieve rotation thereof;

a hollow outer shaft having a longitudinal bore therethrough dimensioned to admit the inner shaft in coaxial relation, the outer shaft having means adjacent an aft end for affixing an inner propeller thereto to achieve rotation thereof;

an aft driven gear having teeth, the aft driven gear coaxially affixed to the outer shaft;

fore driven means comprising a flexible, continuous member engageable with the inner shaft for achieving corotation therewith;

a drive shaft having means for being rotatably driven adjacent a fore end;

an aft drive gear coaxially affixed for corotation with the drive shaft and having gear teeth positioned for meshing with the aft driven gear teeth for driving the aft driven gear in a first direction; and

fore drive means affixed for corotation with the drive shaft and having means for driving the flexible member in a second direction opposite the first direction.

11. The drive system recited in Claim 10, further comprising a case for housing the aft driven gear, the flexible member, the aft drive gear, and the fore drive means within an interior space thereof.

12. The drive system recited in Claim 11, further comprising drive shaft aft bearing means for rotatably affixing an aft end of the drive shaft to an aft side of the case.

13. The drive system recited in Claim 11, further comprising drive shaft fore bearing means for rotatably affixing the drive shaft to a fore side of the case, the fore bearing means positioned between aft end and the fore end of the drive shaft.

14. The drive system recited in Claim 11, further comprising inner shaft bearing means for rotatably affixing a fore end of the inner shaft to a fore side of the case.

15. The drive system recited in Claim 11, further comprising outer shaft bearing means for rotatably affixing the outer shaft to an aft side of the case, the outer shaft bearing means positioned between the aft end and a fore end of the outer shaft.

16. The drive system recited in Claim 10, wherein the drive shaft fore end is affixable to a crank shaft of an engine.

17. The drive system recited in Claim 10, wherein the affixing means of the inner and the outer shaft comprise propeller mounts.

18. The drive system recited in Claim 10, wherein the drive shaft and the inner and the outer shafts are positioned in generally vertical, parallel alignment.

19. A drive system for a propeller-driven vessel comprising:

a drive shaft having means for being rotatably driven adjacent a fore end;

bearing means for rotatably supporting the drive shaft adjacent an aft end
and between the aft and the fore end;

5 a fore drive gear coaxially affixed for corotation with the drive shaft and
having gear teeth positioned for meshing with a fore driven gear having gear teeth for
driving the fore driven gear in a first direction, the fore driven gear affixable to an inner
shaft, the inner shaft having means for affixing an outer propeller thereto for corotation
thereof; and

10 aft drive means affixed for corotation with the drive shaft and having means
for driving a flexible member in a second direction opposite the first direction, the flexible
member engageable for corotation with a hollow outer shaft positionable coaxially with the
inner shaft, the outer shaft having means for affixing an inner propeller thereto for
corotation thereof.

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20. The drive system recited in Claim 19, further comprising a case for housing
the bearing means, the fore drive gear, and the aft drive means within an interior space
thereof.

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21. The drive system recited in Claim 20, further comprising drive shaft aft
bearing means for rotatably affixing an aft end of the drive shaft to an aft side of the case.

22. The drive system recited in Claim 20, further comprising drive shaft fore bearing means for rotatably affixing the drive shaft to a fore side of the case, the fore bearing means positioned between an aft end and the fore end of the drive shaft.

5 **23.** The drive system recited in Claim 19, wherein the drive shaft fore end is affixable to a crank shaft of an engine.

24. A drive system for a propeller-driven vessel comprising:
a drive shaft having means for being rotatably driven adjacent a fore end;
10 bearing means for rotatably supporting the drive shaft adjacent an aft end and between the aft and the fore end;
an aft drive gear coaxially affixed for corotation with the drive shaft and having gear teeth positioned for meshing with an aft driven gear having gear teeth for driving the aft driven gear in a first direction, the aft driven gear affixable to a hollow outer
15 shaft, the outer shaft having means for affixing an inner propeller thereto for corotation thereof; and
fore drive means affixed for corotation with the drive shaft and having means for driving a flexible member in a second direction opposite the first direction, the flexible member engageable for corotation with an inner shaft positionable within a lumen of the
20 hollow outer shaft, the inner shaft having means for affixing an outer propeller thereto for corotation thereof.

25. The drive system recited in Claim 24, further comprising a case for housing the bearing means, the aft drive gear, and the fore drive means within an interior space thereof.

5 **26.** The drive system recited in Claim 25, further comprising drive shaft aft bearing means for rotatably affixing an aft end of the drive shaft to an aft side of the case.

27. The drive system recited in Claim 25, further comprising drive shaft fore bearing means for rotatably affixing the drive shaft to a fore side of the case, the fore bearing means positioned between an aft end and the fore end of the drive shaft.

28. The drive system recited in Claim 24, wherein the drive shaft fore end is affixable to a crank shaft of an engine.

15 **29.** A propeller-driven vessel comprising:
 an outer and an inner propeller;
 an inner shaft having means adjacent an aft end for affixing the outer propeller thereto to achieve rotation thereof;
 a hollow outer shaft having a longitudinal bore therethrough dimensioned to
20 admit the inner shaft in coaxial relation, the outer shaft having means adjacent an aft end for affixing the inner propeller thereto to achieve rotation thereof;

a fore driven gear having teeth, the fore driven gear coaxially affixed to the inner shaft;

aft driven means comprising a flexible, continuous member engageable with the outer shaft for achieving corotation therewith;

5 a drive shaft having means for being rotatably driven adjacent a fore end;

a fore drive gear coaxially affixed for corotation with the drive shaft and having gear teeth positioned for meshing with the fore driven gear teeth for driving the fore driven gear in a first direction; and

aft drive means affixed for corotation with the drive shaft and having means
10 for driving the flexible member in a second direction opposite the first direction.

30. A propeller-driven vessel comprising:

an inner and an outer propeller;

an inner shaft having means adjacent an aft end for affixing the outer
15 propeller thereto to achieve rotation thereof;

a hollow outer shaft having a longitudinal bore therethrough dimensioned to admit the inner shaft in coaxial relation, the outer shaft having means adjacent an aft end for affixing the inner propeller thereto to achieve rotation thereof;

an aft driven gear having teeth, the aft driven gear coaxially affixed to the
20 outer shaft;

fore driven means comprising a flexible, continuous member engageable with the inner shaft for achieving corotation therewith;

a drive shaft having means for being rotatably driven adjacent a fore end;

an aft drive gear coaxially affixed for corotation with the drive shaft and having gear teeth positioned for meshing with the aft driven gear teeth for driving the aft driven gear in a first direction; and

fore drive means affixed for corotation with the drive shaft and having means
5 for driving the flexible member in a second direction opposite the first direction.